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| 10/517,963 | 08/09/2005 | Manfred Ratzsch | 4385-045850 | 5607 |

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THE WEBB LAW FIRM, P.C.
700 KOPPERS BUILDING
436 SEVENTH AVENUE
PITTSBURGH, PA 15219

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| EXAMINER |
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MCLENDON, SANZA L

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| ART UNIT | PAPER NUMBER |
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1711

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08/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,963

Applicant(s)

RATZSCH ET AL.

Examiner

Sanza L. McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 10-16 and 18 is/are rejected.
- 7) ☐ Claim(s) 7, 9, 17 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/27/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8, 10-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rave (3,535,148) in view of Shultz et al (6,306,555).

Rave discloses a process for preparing polymerized aminoplast surface coatings using ionizing radiation. Said aminoplast compositions are applied in liquid form in thickness of about 0.15 to about 1.0 mil (.38 to 25.4 μm). Said aminoplast resin is an etherified aminoplast being the condensation product of an ethylenically unsaturated amide, a polyfunctional amine selected from aminotrazine or urea and an aldehyde such as formaldehyde. The ionizing radiation is obtained from sources such as ultraviolet radiation or electron beam radiation. Rave sets forth that if the aminoplast is too viscous for coating as a liquid the composition can be heated to reduce the viscosity. Rave sets forth said liquid composition is applied to a substrate of which travels on a conveyor and passes under the ionizing source. Said composition can comprise fillers and other polymerizable monomers--see 4:45-49 and 4:55-60. Regarding the limitation "...by irradiation with actinic light at a temperature between the melting point of the amino polycondensate and the thermoinduced decomposition temperature of the light-activatable curing agents..." The examiner deems that this is obvious one would not want to heat the composition above the decomposition temperature of the initiator present because there would be no initiator present to activate the polymerization of the composition. And Rave sets forth that the composition can be heated to reduce the viscosity so the composition can be applied to substrates.

Rave et al differs from the instant invention because it does not teach instant component b1, b2, or b3. However these initiators are known to polymerizable aminoplast resin compositions, such as disclosed by Shultz et al. Shultz et al negative photoresist composition that can be developed in

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an alkaline medium. Said composition comprises an alkali-soluble resin, a component that undergoes crosslinking, and a photosensitive acid donor compound. Said preferable crosslinkable components are amino resins, such as etherified and non-etherified melamine, urea, guanidine or biuret resins-see [0304]. The photosensitive acid donor can be a iodonium salt, wherein Shultz et al sets forth compounds such as other onium salts, such as sulfonium, phosphonium, diazonium, and pyridinium salts, halogenated triazines, sulfonate compounds, and quinonediazide compounds. Rave and Shultz et al are analogous art because they are from the same field of endeavor that is the art of photocationic curable compositions. Therefore it would have been obvious for a skill artisan of ordinary level to use the photoinitiators and/or photoinitiator combinations as set forth by Shultz et al to accelerate the compositions as set forth by Rave. The motivation would have been a reasonable expectation of obtaining a faster cure in the absence of evidence to the contrary and/or unexpected results.

Rave does not expressly teach a post-thermal cure of the composition. However post-thermal cures are known to provide a thorough or complete cure of irradiated compositions. Therefore the examiner deems that a post-thermal is within the skill level of an ordinary artisan to provide a post-thermal cure to the composition of Rave the motivation would have been a reasonable expectation of obtained a complete cure in the absence of evidence to the contrary and/or unexpected results.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an

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application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 10-16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Rave (3,535,148).

Rave sets forth irradiated aminoplast coatings obtained by irradiating aminoplast compositions. Said irradiated coatings appear to anticipate the above listed amino resin products. The courts have upheld where prior art discloses product that appears to be either identical with or only slightly different from product claimed in product-by-process claim; Patent Office can require applicant to prove that prior art products do not necessarily or inherently possess characteristics of his claimed product; whether rejection is based on "inherency" under 35 U.S.C. 102, on "prima facie obviousness" under 35 U.S.C. 103, jointly or alternatively, burden of proof is same; Patent Office that has reason to believe that functional limitation asserted to be critical for establishing novelty in claimed subject matter may, in fact, be inherent characteristic of prior art, possesses authority to require applicant to prove that subject matter shown to be in prior art does not possess characteristic relied on.

Claim Rejections - 35 USC § 102/35 USC § 103

5. Claims 1-6 and 9-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shultz et al (2003/0036591 and 6,306,555).

Shultz et al sets forth negative photoresist compositions that are developable in alkaline mediums. Said composition comprises an alkali-soluble resin, a component that undergoes crosslinking, and a photosensitive acid donor compound. Said preferable crosslinkable components are amino resins, such as etherified and non-etherified melamine, urea, guanidine or biuret resins--see [0304]. The photosensitive acid donor can be a iodonium salt, wherein Shultz et al sets forth compounds such as other onium salts, such as sulfonium, phosphonium, diazonium, and pyridinium salts, halogenated triazines, sulfonate compounds, and quinonediazide compounds. Additionally, Shultz et al sets forth radiation curable compositions comprising (a1) a cationically or acid-catalytically polymerizable or crosslinkable compound, (a2) a compound that increases its solubility in a developer under the action of an acid and (b) at least one diaryl iodonium salt photoinitiator having the structure of general formula (I)--see [0004] to [0006]. Said (a1) compounds can be aminoplast, wherein etherified and non-etherified amino

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resins, such as melamine, urea, guanidine and biuret resin, are preferred for surface coatings--see [0056]. Shultz et al set forth maleic anhydride copolymers as solubility increasers (a2)--see [0912]. Additives such as fillers and the like can be added--see [0198]--wherein silica, zinc oxides, and iron oxides among others can be found. Said compositions can be applied to substrate in thickness of 0.1 to 100 micrometers--see [0227]. Shultz et al does not expressly teach compositional amounts for (a1), (a2) and (b), however it has been upheld by the courts that discovering optimum values of result effective variables involves only routine skill in the art. The composition is applied to a substrate, heating from 60 to 160 °C, carrying out image-wise exposure via irradiation, and optionally post curing at a temperature from 60 to 160 °C, and subsequently developing with a solvent or alkaline developer.

Allowable Subject Matter

6. Claims 7, 9, 17 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the amino resin of claim 7 was not found in processes according to claim 1 in the prior art. The prior art failed to disclosed filaments and fibers obtained by the process according to claim 1.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kirk et al (5,236,472) sets forth abrasive products using aminoplast binders that have been cured by radiation. Habrich et al (4,880,662 and 4,970,399) set forth UV hardenable reactions of which can comprise aminoplast resins and photoinitiators. Irving et al sets forth iodosyl salts and teaches said salts can photocure aminoplast resins. Yamamoto et al (2004/00531358) sets forth photoresist compositions that can comprise aminoplast resins and photoinitiators as instantly claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sandra A. McClendon

Examiner

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SMC